REMARKS

The information disclosure statement filed February 17, 2000, submitted the best available copies of the listed references at the time of filing. One of those references, "Internet Auctions" by Manoj Kumar and Stuart Feldman, has been printed from IBM's Web site and is submitted herewith for consideration by the Examiner. More legible copies of the other cited references have been requested and will be submitted at such time as they are made available. The cited references are those mentioned on pages 1 to 4 of the specification as providing background information for the subject invention.

The objections to the specification have been noted and appropriate amendments have been made. MPEP 608.01 concerning embedded hyperlinks and the USPTO's rational for requiring deletion from the specification is noted. Where appropriate, the hyperlinks have been deleted or described in general form. However, in some cases, as in the Kumar and Feldman reference mentioned above and at the bottom of page 1 of the specification, publication is only on an Internet Web site. In such case, citation is not complete unless the hyperlink is included. In the present case, a compromise is offered by making general reference to IBM's Web site and providing the extension that links to the subject paper. This type of reference is not browser-executable code and, therefore, should be acceptable.

The first page of the Office Action was checked to indicate that the Examiner objected to the drawings; however, the body of the Office Action makes no reference to this objection. Formal drawings were filed on August 4, 2000. If the Examiner does in fact have an objection to the drawings, that objection should be explained so that an opportunity is provided to make correction; otherwise, acceptance of the formal drawings filed on August 4, 2000, is respectfully requested.

Claims 1 to 11 appear in the application. Claim 1 has been amended to emphasize the patentable novelty of the claimed invention. Claims 3, 6 and 9 have

been amended to be in independent form, and new claim 11 added. The claims are re-submitted, with amendment, for reconsideration in light of the following remarks.

Claims 1 to 10 were rejected under 35 U.S.C. §112, second paragraph, as being indefinite. Specifically, the Examiner has taken the position that the adverb "quickly" in claim 1 is a relative term that renders the renders the claim indefinite. The adverb "quickly" has been deleted by this amendment. Withdrawal of the rejection of the claims as indefinite is therefore respectfully requested.

Claims 1 to 10 were rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 6,449,601 to Friedland et al. This rejection is respectfully traversed for the reason that the patent to Friedland et al. neither shows nor suggests the claimed invention.

The subject invention is directed to open-cry and descending price auctions. In open-cry auctions, also known as "English auctions", buyers gather at a common location, physical or virtual, at a pre-specified time, and each buyer can hear the bid submitted by a rival buyer and has a limited time to respond with a higher counter-bid. In descending price auctions, also known as "Dutch auctions", the auctioneer starts with a high asking price, then gradually decreases the asking price until buyers emerge with bids specifying how many items they will buy at the current asking price.

The claimed invention provides a computer implemented distributed processing methods wherein bids for an open-cry or descending auction can be processed and some bids filtered out in a decentralized manner using multiple nodes with one or more servers (processors) at each node. Each node could be a shared-memory multiprocessor, or a distributed memory multiprocessor. These nodes could sit in a room or could be placed geographically far apart. The computer implemented distributed processing methods according to the invention provide fast determination of winners by dividing the processing into two parts. The first of these is a current local winner determination method which is implemented at each of the nodes to

quickly identify loser bids and candidate winning bids. The second is a global winner determination method which determines from the candidate winning bids from each of the nodes a current set of winners. The determination of loser bids is important in quickly identifying the candidate winning bids, and the division of the processing into two parts, local winner determination and global winner determination, is also important in quickly arriving at a current set of winners.

Friedland et al. disclose a distributed live auction, generally shown in Figure 3, in which a human proxy 306 attends the live auction in order to monitor the auction and compose status updates that are distributed to remote bidders316–319 as they follow the auction. The remote bidders may place bids for items, just as if they ere present, in-person, in the audience 302. The remote bidders bids are transmitted to the human proxy, who may then submit the bids to the auctioneer 304.

The fundamental difference between the claimed invention and the Friedland et al. patent is that the auction format dealt with in Friedland et al. is effectively a "single unit" auction format in which the bidder who is ready to pay the highest price pets the unit or gets to make the choice of which lots he will take. Using this format, the auctioneer decides a price point so that he can allocate goods to the highest bidder, and the process starts all over again to allocate units to the rest of the bidders. In contrast, the invention is a "multi-unit" open cry auction format where the bidders submit multi-item bids (e.g., "I want three lots/items) and the bids may be indivisible (i.e., the bidder gets all or none). Such kinds of bids naturally complicates the bidders that are winning – a bidder bidding high price/unit may actually not get any quantity at all! In the sense of this fundamental difference, the claimed invention is different from what Friedland et al. disclose or suggest.

In col. 1, lines 13 et seq., and col. 2, lines 6 et seq., Friedland et al. basically talk of determining a "price point" at which the highest bidder gets to buy his choice of lots, and then the process starts all over again with the remaining goods and bidders. Also, Friedland et al. mention (col, 2, lines 13 et seq.) that the way the price

point is determined is through bidding on a choice lot on a per-item basis, eventually establishing a price point. This is equivalent to bidding on a single unit of item, and the auction stops when there is nobody to beat the current highest bidder. This, as mentioned above, is the basic difference between the Friedland et al. auction format and that of the claimed invention. Having said that, col. 5, lines 13 et seq., of Friedland et al. sets out that the bid that a bidder submits is a single price (per unit) and that is used to ultimately establish a price point, at which time the winning bidder is allowed to choose his items from the lot. Whereas, in the case of the claimed invention, a bidder specifies the price per unit and the "exact" number of units that the bidder wants (meaning that if he is allocated less or more than that, then he will not accept any quantity, and there is no meaning of "choice" if the bid is declared a winner). In col. 17, lines 3 et seq., not that a bidder's bid contains a price for a particular lot to establish the price point – there is no discussion of "quantity" to determine the winning bids.

In making the rejection, the Examiner alleges that Friedland et al. discloses a current local winner determination method and current global winner determination method. The Examiner further seems to equate the word "remote" with the recited limitation of "global". The two are not synonyms. The Examiner cites col. 13, line 63, to col. 14, line 43, of Friedland et al. as teaching the current local winner determination method, but the citation does not support the Examiner's position. The cited passage is directed to Figure 9 of Friedland et al. which is a representation of the user interface displayed to the human proxy. This user interface allows the human proxy to quickly update status information about the auction as the auction proceeds. Clearly, this is not a local winner determination method implemented at each of the nodes in a distributed processing system. The Examiner cites col. 3, lines 10–67, of Friedland et al. as teaching the current global winner determination method. But again, the citation does not support the Examiner's position. The cited passage comprises substantially the entire "Summary of the Invention" of the Friedland et al.

patent, but a reading of that section of the patent does not describe or suggest the claimed features of the invention. Specifically, the claimed invention as recited in claim 1 includes the following:

- "A distributed method for processing auction traffic using *one or more servers at a plurality of nodes* in a distributed processing system",

- "a *computer implemented current local winner determination method at each of the nodes to identify loser bids and candidate winning bids*", and

- "a *computer implemented current global winner determination method to determine from the candidate winning bids from each of nodes a current set of winners*" (emphasis added).

Friedland et al. does not disclose or suggest these limitations and, in fact, teaches away of the claimed invention by the use of a human proxy and a human auctioneer. Claim 1 and claims 2 and 8, dependent thereon, are therefore clearly patentable over Friedland et al. It is noted that as to claim 8, the Examiner takes the position that descending auctions are notoriously old and well known. Applicants do not dispute this, but that is not what they are claiming. What is being claimed in claim 8 is the application of their method to such auctions. There is no teaching in Friedland et al. of descending auctions, and equivalency to open-cry auctions is provided in Applicant's own disclosure.

As mentioned, claim 3 has been amended to be in independent form. This claim recites in some particular detail one alternative to the current local winner determination method. The Examiner attempts to read the claim limitations on Friedland et al. by paraphrasing the claim and citing passages of the Friedland et al. patent. First of all, the paraphrased limitations are <u>not</u> found in Friedland et al. Second, the citations do not support the Examiner's position that Friedland et al. some how teaches these limitations. Specifically, where in col. 5, line 13 et seq., and col. 1, line 60 et seq., is there any teaching of "receiving a new bid(v,q) at a node, where v denotes the price per unit and q denotes the quantity desired", as recited in

claim 3? Where in col. 2, lines 12 et seq., is there any teaching of "checking to see if the new bid ranks in the top $\lfloor N/q \rfloor$ bids, in terms of price/unit bid value, amongst all the bids asking for quantity q whose information is available to this process, where N is a number of copies of a single item on sale and $\lfloor x \rfloor$ stands for the greatest integer less than or equal to x", as recited in claim 3? Where in col. 17, lines 3 et seq., is there any teaching of "taking the new bid along with the set of $\lfloor N/q \rfloor$ bids that have been processed and determining a new set of top $\lfloor N/q \rfloor$ bids" or "determining if bid(v,q) is in the top $\lfloor N/q \rfloor$ bids and, if it is not, declaring it a loser bid, but if so, declaring it a candidate bid", as recited in claim 3? It has already been established above that the basic method is <u>not</u> taught by Friedland et al. It is also quite evident from a consideration of Friedland et al. as a whole that the specific current local winner determination method recited in claim 3 is also <u>not</u> taught by Friedland et al.

Claim 4 is dependent on claim 3 and recites the steps of the current global winner determination method. The Examiner again attempts to read the claim limitations on Friedland et al. by paraphrasing the claim and citing passages of the Friedland et al. patent. First of all, the paraphrased limitations are <u>not</u> found in Friedland et al. Second, the citations do not support the Examiner's position that Friedland et al. some how teaches these limitations. Specifically, where in col. 17, line 3, to col. 18, line 2, is there a teaching of "holding the candidate bid at the node for a time, τ" and "if by time τ, through an arrival of another bid, a candidate bid loses its position amongst the top $\lfloor N/q \rfloor$ highest bids, declaring the bid a loser bid", as recited in claim 4? Where in col. 17, line 3, to claim 18, line 2, is there a teaching of "otherwise, declaring the bid a winner candidate and making the bid accessible for further processing by the current global winner determination method", as recited in claim 4? The cited passage pertains to the flow control diagram of Figure 15, and there is nothing in this figure or its description that suggest the recited steps of the current global winner determination method which is the second part the distributed processing method according to the invention.

Claim 6, like claim 3, has been amended to be in independent form and, like claim 3, recites in some particular detail another alternative to the current local winner determination method. The Examiner attempts to read the claim limitations on Friedland et al. by paraphrasing the claim and citing passages of the Friedland et al. patent. First of all, the paraphrased limitations are not found in Friedland et al. Second, the citations do not support the Examiner's position that Friedland et al. some how teaches these limitations. Specifically, where in col. 5, lines 13 et seq., and col. 1, lines 60 et seq., is there a teaching of "receiving a new bid(v,q) at a node, where v denotes the price per unit and q denotes the quantity desired", as recited in claim 6? Where in col. 2, lines 12 et seq., and col. 13, lines 23 et seq., is there a teaching of "considering a set of bids using a set of pre-specified auction rules and selecting winners for auctioning $N+x$ copies of the item on sale" or "determinating whether the bid(v,q) is a candidate winner bid", as recited in claim 6? It has already been established above that the basic method is not taught by Friedland et al. It is also quite evident from a consideration of Friedland et al. as a whole that the specific current local winner determination method recited in claim 6 is also not taught by Friedland et al.

Claim 7 is dependent on claim 6 and recites the steps of the current global winner determination method. The Examiner again attempts to read the claim limitations on Friedland et al. by paraphrasing the claim and citing passages of the Friedland et al. patent. First of all, the paraphrased limitations are not found in Friedland et al. Second, the citations do not support the Examiner's position that Friedland et al. some how teaches these limitations. Specifically, where in col. 3, lines 10–67, is there a teaching of "receiving new candidate winning bid from a node bid(v,q)" or "taking the candidate winning bid along with the set of all bids that have been processed and determines a new set of winners" or "determining whether the new candidate bid(v,q) is a winner or a loser" or "notifying the bidder of bid(v,q) as to whether they are a winner or loser", as recited in claim 7? The cited passage is a

substantial part of the "Summary of the Invention" and describes nothing which could remotely be characterized as the claimed current global winner determination method.

Claim 9, like claims 3 and 6, has been amended to be in independent form. Claim 9, however, is directed to a distributed method for processing descending auction traffic. Like claims 3 and 6, claim 9 recites in some particular detail the current local winner determination method, this current local winner determination method being specific to the descending auction. The Examiner attempts to read the claim limitations on Friedland et al. by paraphrasing the claim and citing passages of the Friedland et al. patent. First of all, the paraphrased limitations are not found in Friedland et al. Second, the citations do not support the Examiner's position that Friedland et al. some how teaches these limitations. Specifically, where in col. 2, lines 12 et seq., and col. 3, lines 23 et seq., is there a teaching of "receiving a bid (q) for processing, where q is the quantity desired at going price p" or "determinating whether the bid is in the first $\lfloor R/q \rfloor$ bids, asking for quantity q at price p, where $\lfloor x \rfloor$ stands for the greatest integer less than or equal to x and R is a currently remaining quantity on auction" or "if the bid is in the first $\lfloor R/q \rfloor$ bids, asking for quantity q at the going price p, then declaring the bid a candidate winner bid" or "making the candidate winner bid available for further processing by the current global winner determination method", as recited in claim 9? The cited passages are from the "Background of the Invention" and the "Summary of the Invention" and describe nothing which could remotely be characterized as the claimed current global winner determination method. This claim is quite specific to the steps of the current local winner determination for a descending auction according to the invention. It has already been established above that the basic method is not taught by Friedland et al. It is also quite evident from a consideration of Friedland et al. as a whole that the specific current local winner determination method recited in claim 9 is also not taught by Friedland et al.

Claim 10 is dependent on claim 9 and recites the steps of the current global winner determination method. The Examiner again attempts to read the claim

limitations on Friedland et al. by paraphrasing the claim and citing passages of the Friedland et al. patent. First of all, the paraphrased limitations are <u>not</u> found in Friedland et al. Second, the citations do not support the Examiner's position that Friedland et al. some how teaches these limitations. Specifically, where in col. 2, lines 12 et seq., and col. 3, lines 23 et seq., is there a teaching of "giving bids processed by the method a time stamp of arrival" or "determining whether the time stamp, if it exists on the bid, is greater than or equal to the time stamp of any bid, asking for quantity q at going price p, that has been processed by the method in the past", as recited in claim 10?

In view of the foregoing, it is respectfully requested that the application be reconsidered, that claims 1 to 11 be allowed, and that the application be passed to issue.

Should the Examiner find the application to be other than in condition for allowance, the Examiner is requested to contact the undersigned at the local telephone number listed below to discuss any other changes deemed necessary in a telephonic or personal interview.

A provisional petition is hereby made for any extension of time necessary for the continued pendency during the life of this application. Please charge any fees for such provisional petition and any deficiencies in fees and credit any overpayment of fees to IBM Attorney's Deposit Account No. 09-0441.

Respectfully submitted,
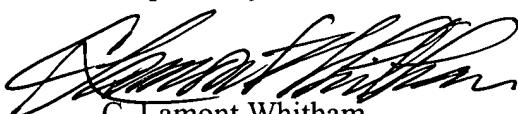
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